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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Arguments

1. Applicant's arguments filed 9/14/10 have been fully considered but they are not persuasive.

Regarding the Power Management Integrated Circuit (PMIC) in Molnar's reference, in the Remark, Applicant contends that

As described above, the only description of power control in Molnar is in paragraph [0040] which states that "[t]he power module 206 **controls the power supply** for all of the other components of the mobile communications device." If the serial interface 326 were to provide power control messages, as required by claim 1, then it would need to be coupled to the power module 206. No such coupling is shown, however. Thus, there is no basis in Molnar to support the Examiner's assertion that Molnar discloses "a serial message interface for communicating a power control message from the baseband section to the RF section."

In response, it is noted that through out the prosecution of the application, Applicant merely relies **only** on the paragraph **[0040]** to allege that the power module 206 provides power control messages for the device, whereas the whole description of Molnar's reference regarding the "intermittent shut down" of the RF circuit **all** describe the operation of the baseband module that generates a control signal via data latches to a plurality of level shifters (see Abstract, [0058, 0059, 0064, 0072]). Nothing in paragraph [0040] that would describe the "intermittently shut down operation" of RF components or circuits as mentioned by Molnar in paragraphs [0010, 0059, 0060] except for "control power supply". Here, "control power supply" would not teach "intermittently shut down operation".

Applicant further contends that

If the Examiner continues to assert that Molnar discloses sending power control messages via the serial interface 326, Applicant requests that the Examiner point to explicit language in Molnar being used as the basis for this assertion.

In response, the examiner asserts that the "control signal" generated by the baseband module would be the claimed "power control message" for intermittently shut down RF component/circuit (see [0008, 0010, 0059, 0060]). Specifically, this control message would comprise information to control each local level shifter (LLS) associated with each RF circuit to power up or power down its associated RF circuit (see Demod 384 or DownConv 370 or ModUpconv 344 in Fig 3). Here, although **Molnar** does not explicitly or clearly teach the power down operation of the LLS in [0060], the power down and power up operations of the LLS are **clearly** described by **Kaewell** (see **col. 12, lines 17-21** regarding "shifts the levels of the four signals from CMOS levels to RF power control levels to produce actual signals that power up or power down the circuit components of RF section"). Therefore, "the data 326" (**Molnar**, Fig. 3, [0072]) of the digital control signals comprising data bits for transferring to register of serial interface 332 would cause each LLS to provide different control voltage V_{CO} for its associated RF component/circuit in the RF section when power up the component for operation (see **[0070-0071]**), and during the power down operation, this LLS would provide registers of its associated RF component the baseband standby voltage V_{BO} for memory retention purpose (see [**0059-0060**]). Since **Molnar does teach the power up operation** of the LLS (see [**0070-0071**]) regarding converting V_{BO} to operating voltage V_{CO}), **Molnar** would obviously suggest the power down operation as well for the LLS as clearly disclosed by **Kaewell**. Therefore, one skilled in the art would recognize that the data

message 326 in Molnar would comprise information to power up/down RF components via their associated local level shifter (LLS) as disclosed by Kaewell, and would read on the claimed "power control message". Therefore, **Molnar** does teach a serial message interface for communicating a power control message from the baseband section to the RF section.

Furthermore the Examiner has not provided any analysis of the qualifications of a person of ordinary skill in the art as required under MPEP § 2141.03 nor has he provided any "articulated reasoning with rational underpinning" to support the modification of Molnar by Kaewell.[1] Indeed, the Examiner has not provided any reason why a skilled person would modify Molnar to include the teachings of Kaewell. Thus, the Examiner has failed to properly state a case of *prima facie* obviousness and the combination of Molnar and Kaewell is improper. (See MPEP § 2142).

In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

In this case, the **Kaewell's** teaching is used solely for clearly showing the operation of local level shifters (LLS) that would involve power up and power down operations of RF circuits by the LLS (see **col. 12, lines 17-21**). Since **Molnar** does teach the power up operation of the LLS (see **[0070-0071]**) regarding operating voltage

V_{CO}), **Molnar** would obviously, if not implicitly, teach the power down operation as well for the LLS.

Applicant further contends that

Lindlar concerns an interface between baseband circuitry and RF circuitry in a Bluetooth device. The Lindlar system does not disclose or suggest *"a* serial message interface for communicating a power control message from the baseband section to the RF section." Instead, Lindlar teaches the use of hard-wired power control signals. In the Office Action, two power control elements are identified 1) the signal SleepX which removes power from the entire RF section and 2) the signal PAON which controls power to the power amplifier 276. Neither of these signals is a part of a "message" as the term would be understood by a skilled person upon reading the subject patent application nor is it communicated from the baseband section to the RF section via "a serial message interface," as required by claims 1, 8, 14, 22 and 29.

.....

Using a message to transfer power control messages rather than dedicated signals or a separate power control module has the advantage of reducing the number of signal lines between the baseband and RF sections. In Lindlar, separate signal lines are required for the SleepX and PAON signals. Control of more than one device in the RF section, according to Lindlar, would require a separate signal line for each device. According to the subject invention, however, power control messages are sent between the baseband and RF sections via a single message interface and are received by a register. The devices to be controlled by the power control message are coupled to the register to receive respective power control data from the received power control message. Furthermore, the Examiner has not provided any "articulated reasoning with rational underpinnings" to support the combination of Molnar, Kaewell and Lindlar. Thus, the Examiner has failed to state a *prima facie* case of obviousness (See MPEP § 2142).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Here, **Lindlar** does teach a bi-directional serial message interface for communicating data and control signals (i.e, data, status, an operation mode such as transmit mode, receive mode, or sleep mode) between the baseband section and the

RF section (see Table 1 and col. 2, lines 18-58). Since **Molnar** does teach a serial message interface for communicating a power control message from the baseband section to the RF section, the combination of Lindlar and Molnar would teach a bi-directional serial message interface for communicating a power control message from the baseband section to the RF section as claimed. The motivation for providing a bi-directional serial message interface is to utilizing advantages of two way communication such as communicating digital control signals between the baseband section and the RF section, for exchanging data, status, information according to the current operation mode of the transceiver. Note that Molnar **does not** explicitly teach that the serial interface is a **uni**directional interface. In fact, **Fig. 2** of **Molnar's** reference clearly showing a **bi-directional interface** between the RF module 208 and the Baseband module 202.

Applicant further contends that

Thus, Syrjarinne can not disclose or suggest:

a bi-directional serial message interface for communicating messages between the RF processing section and a baseband processing section, including
receiving a power control message from the baseband processing section wherein the power control message is associated with power consumption of the RF processing section, wherein the RF section includes a register for receiving the power control message from the baseband section and wherein devices to be controlled by the power control message are coupled to the register to receive respective power control data from the received power control message,

as required by claim 14. Claims 22 and 28 include similar limitations. Consequently, Syrjarinne can not provide the material that is missing from Molnar, Kaewell and Lindlar.

Furthermore, the Examiner has not provided any "articulated reasoning with rational underpinnings" to support the combination of Syrjarinne with any of the other references. Thus, the Examiner has failed to state a *prima facie* case of obviousness.

Because neither Molnar, Lindlar, Kaewell nor Syrjarinne either alone or in combination disclose or suggest these limitations of claims 14, 22 and 28 and because claims 14-17, 19-20

and 21 depend from claim 14; claims 23-25 and 27 depend from claim 22 and claims 29-31 and 33 depend from claim 28, these claims are not subject to rejection under 35 U.S.C. § 103(a) in view of Molnar, Kaewell, Lindlar and Syrjarinne.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Here, Syrjarinne's reference is used solely for its teaching of a power control saving mode in a GPS receiver. Since Molnar's teaching would applicable to a GPS receiver and would work equally well, the claimed limitation is just an "intended use" of Molnar's teaching in a GPS receiver as disclosed by Syrjarinne. Note that it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed (for a GPS receiver) does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations *Ex parte Masham* 2 USPQ2d 1647 1987).

Claim 21 was rejected for nonstatutory obviousness-type double patenting in view of claims 1-3 of Patent no. 7,634,025 and Molnar. In the Office Action, it is admitted that claims 1-3 of Patent no. 7,634,025 do not include a register to receive power control messages from a baseband unit and cites Molnar as disclosing this feature. As set forth above, however, this feature is not disclosed or suggested by Molnar. Contrary to the Examiner's assertion, Molnar does not disclose or suggest that the register in Molnar receives any power control messages. Applicant further notes that, as described above, Molnar does not disclose or suggest a serial message interface for communicating a power control message from the baseband section to the RF section. This limitation is also absent from claims 1-3 of U.S. Patent no. 7,634,025. Consequently, claim 21 is not subject to rejection for nonstatutory obviousness-type double patenting in view of claims 1-3 Patent no. 7,634,025 and Molnar.

In response, the examiner asserts that Molnar does teach registers to receive power control messages from a baseband unit (see Fig. 3 regarding refs. 332, 334 and claims 3, 11, 19, 27), and does teach a serial message interface for communicating a power control message from the baseband section to the RF section for the same reason as set forth above for claim 1.

Applicant again points out that, in the Office Action, the Examiner provides unsupported assertions as to the operation of the Power Management IC. If the Examiner intends to rely on any of these assertions in a future rejection, Applicant respectfully requests the examiner to provide substantial evidence on the record or an appropriate declaration or affidavit to support the assertions.

Again, it is noted that through out the prosecution of the application, Applicant merely relies **only** on the paragraph **[0040]** to allege that the power module 206 provides power control messages for the device, whereas the whole description of Molnar's reference regarding the "intermittent shut down" of the RF circuit **all** describe the operation of the baseband module that generates a control signal via data latches to a plurality of level shifters (see Abstract, [0058, 0059, 0064, 0072]). Nothing in paragraph [0040] that would describe the "intermittently shut down operation" of RF components or circuits as mentioned by Molnar in paragraphs [0010, 0059, 0060] except for "control power supply". Here, "control power supply" would not teach "intermittently shut down operation".

The examiner also notes that "although 'message' and 'signal' are two different terminologies, they are both meaning the same for Molnar and the claimed invention because they both provide control bits in a message/signal to a serial interface for controlling power of RF components." Applicant notes that pursuant to MPEP section 2181, "claim language must be analyzed not in a vacuum but in light of: (A) the content of the particular application disclosure; (B) the teachings of the prior art; and (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." As set forth above, the claims explicitly recite "*a* power control message," also as set forth

above, there are significant differences between messages and signals. As described above, in Molnar, the message is used to configure the RF unit, not to control its power state. In Kaewell and Lindlar, signals are needed due to the timing constraints on switching on and off the devices in the RF section. Thus, "message" and "signal" are different concepts and may not be conflated. Consequently, in view of the teachings of the specification, the words used in the claim, and the teachings of Kaewell and Lindlar, the Examiner is not entitled to ignore the word "message" when interpreting the claim. Thus, as described above, a message is not equivalent to a signal

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Here, **both** the claimed invention and Molnar's reference utilize a "serial data interface" for sending control data from the baseband section to the RF section.

For foregoing reasons, the examiner believes that the pending claims are not allowable over the cited prior art.

1. **Any response to this action should be mailed to:**

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Hand-delivered responses should be brought to Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893, Monday-Thursday (9:00 AM - 5:00 PM).

Or to Nay Maung (Supervisor) whose telephone number is (571) 272-7882.

/Duc M. Nguyen/

Primary Examiner, Art Unit 2618

Oct 14, 2010